Amendments to the Claims

This listing of claims will replace all prior listings of claims in the application.

Listing of Claims

1. (Currently Amended) An aluminum alloy piping material for automotive tubes having excellent corrosion resistance and formability and which is an annealed material of an aluminum alloy comprising, in mass percent, 0.3 to 1.5% of Mn, ~~0.20%~~0.05% or less of Cu, 0.10 to 0.20% of Ti, ~~more than 0.20% but~~0.30% to 0.60% ~~or less~~ of Fe, and 0.50% or less of Si with the balance being aluminum and unavoidable impurities, wherein the aluminum alloy piping material has an average crystal grain size of 100 μm or less, and Ti-based compounds having a grain size of 10 μm or more do not exist as an aggregate of two or more serial compounds in a single crystal grain.

2. (Previously Presented) The aluminum alloy piping material according to claim 1, wherein the aluminum alloy further comprises up to 0.4% of Mg.

3. (Previously Presented) The aluminum alloy piping material according to claim 1, wherein the aluminum alloy further comprises at least one of 0.01 to 0.2% of Cr and 0.01 to 0.2% of Zr.

4. (Previously Presented) The aluminum alloy piping material according to claim 1, wherein the aluminum alloy further comprises at least one of 0.01 to 0.1% of Zn, 0.001 to 0.05% of In, and 0.001 to 0.05% of Sn.

5. (Previously Presented) A method of manufacturing an aluminum alloy piping material for automotive tubes having

excellent corrosion resistance and formability, the method comprising hot extruding a billet of the aluminum alloy according to claim 1 into an aluminum alloy tube, cold drawing the aluminum alloy tube, and annealing the cold-drawn product, wherein a reduction ratio of the cold drawing is 30% or more, a total reduction ratio of the hot extrusion and the cold drawing is 99% or more, and a temperature increase rate during the annealing is 200°C/h or more, the reduction ratio being expressed by {(cross-sectional area before forming - cross-sectional area after forming) / (cross-sectional area before forming)} × 100%.

6. (Currently Amended) An aluminum alloy piping material for automotive tubes having excellent corrosion resistance and formability and which is an annealed material of an aluminum alloy comprising, in mass percent, 0.3 to 1.5% of Mn, 0.05 to 0.1% of Cu, 0.10 to 0.20% of Ti, ~~more than 0.20% but no more than~~0.30% to 0.60% of Fe and 0.50% or less of Si, with the balance being aluminum and unavoidable impurities, the aluminum alloy piping material having an average crystal grain size of 100 μm or less and Ti-based compounds having a grain size of 10 μm or more do not exist as an aggregate of two or more serial compounds in a single crystal grain.

7. (Previously Presented) The aluminum alloy piping material according to Claim 1, wherein at least 0.22% Fe is present.

8. (Previously Presented) The aluminum alloy piping material according to Claim 1, wherein at least 0.30% Fe is present.

9. (Previously Presented) The aluminum alloy piping material according to Claim 6, wherein at least 0.22% Fe is present.

10. (Previously Presented) The aluminum alloy piping material according to Claim 6, wherein at least 0.30% Fe is present.

11. (New) An aluminum alloy piping material for automotive tubes having excellent corrosion resistance and formability and which is an annealed material of an aluminum alloy comprising, in mass percent, 0.3 to 1.5% of Mn, from 0.05 to 0.20% of Cu, 0.10 to 0.20% of Ti, 0.45 to 0.60% of Fe, and 0.50% or less of Si, with the balance being aluminum and unavoidable impurities, wherein the aluminum alloy piping material has an average crystal grain size of 100 μm or less, and Ti-based compounds having a grain size of 10 μm or more do not exist as an aggregate of two or more serial compounds in a single crystal grain.

12. (New) The aluminum alloy piping material of Claim 11, wherein at least 0.58% of Fe is present.

13. (New) The aluminum alloy piping material of Claim 11, wherein at least 0.10% of Cu is present.